

EUROPEAN PROJECTS ON SOCIAL HOUSING AND CHALLENGES TO ORGANISATIONS ARISING FROM NEW REGULATIONS AND POLICIES

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ENERGY SAVINGS:

High potential in the building sector

- Buildings account for 40% of final EU energy use
- Largest cost-effective savings potential:
 - ▶ EU households: 27%
 - ▶ EU commercial buildings: 30%



EUROPEAN POLICY CONTEXT

Environmental Technology Action Plan, since 2004

- ▶ To remove obstacles to tapping the great potential of environmental technologies to protect the environment and to support competitiveness and economic growth

Second European Climate Change Programme (ECCP II), launched in Oct 2005

- ▶ To explore cost-effective options for reducing greenhouse gas emissions in synergy with the EU's *Lisbon Strategy* for increasing economic growth and job creation

Energy Efficiency Action Plan, Oct 2006

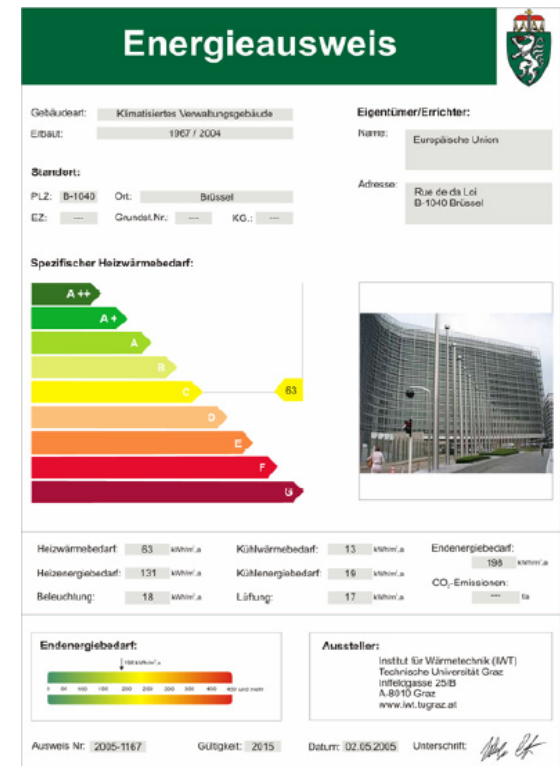
- ▶ To reduce EU global primary energy use by 20% by 2020
- ▶ To increase the level of renewable energy in the EU's overall mix from less than 7% today to 20% by 2020

European legislation on energy savings

- **Directive on energy performance of buildings**
- Directive on the promotion of cogeneration
- Directive for the taxation of energy products & electricity
- Renewable Electricity Directive
- Biofuels Directive
- CHP Directive
- Directives on energy efficiency requirements for boilers, refrigerators and ballasts for fluorescent lighting
- Directives for labelling of electric ovens, air-conditioners and refrigerators and other appliances
- Regulation on Energy Star labelling for office equipment
- **Directive on Eco-design requirements for energy using products**
- **Directive on energy end-use efficiency and energy services**

ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE

- Calculation of the integrated energy performance with a methodology at national or regional level under a common framework
- Minimum requirements on the energy performance of new buildings and large refurbishments
- Energy certification of buildings making energy consumption visible to owners, tenants and users
- Inspection of boilers and air-conditioning systems
- Independent experts for assessment and inspection



Example:
Certificate of the main Commission
Building "BERLAYMONT"

EPBD's state of implementation

- Many countries already enacted legislation and regulations before the end of 2006, but not all...
- Most countries have requested an extension of 3 years due to a lack of accredited experts and inspectors – training them takes a long time.
- We shall start to see certificates popping up for NEW buildings, PUBLIC buildings and, to a lesser extent, EXISTING buildings over the period 2007-2008.
- The complete EPBD shall not be fully in force in the whole of Europe before 2009. No change really feasible before then.
- The Commission will propose expanding the scope of the EPBD substantially in 2009, after its complete implementation.

RETROFITTING OF SOCIAL HOUSING (VKA 2)

18 ongoing projects



- ▶ Education, training and local forums for social housing stakeholders

(NIRSEPES, EI-Education, Factor 4, SHARE)



- ▶ Awareness raising

(ISEES, ROSH, **Save@Work4Homes**, EPEE)



- ▶ Improvement of asset management tools

(Epi-SoHo, RESHAPE, ESAM)



- ▶ Retrofitting solutions & methodologies

(E-Retrofit- KIT, TREES, **SuRE-FIT**, **AVASH**)



- ▶ Tackling obstacles and tailored financing schemes

(InoFin, **ECOLISH**, **TACKOBST**)



RETROFITTING OF SOCIAL HOUSING

2 projects under negotiations

FINSH

- ▶ Financial and support Instruments for Fuel Poverty in Social Housing

SQUARE

- ▶ A System for Quality Assurance when Retrofitting Existing Buildings to Energy Efficient Buildings

RETROFITTING OF SOCIAL HOUSING

wide variety of national context



- «**Social**» ? Housing
- Forms of ownership/ tenure
- Housing typologies
- Technical solutions
- Gap of energy performance
- Climatic conditions
- Educational & awareness levels
- Legal framework
- Management support
- Housing construction support
- Rent control
- Quality of the building stock
- Heating/cooling types of fuels
- Energy saving needs/ priorities



Intelligent Energy



Europe

TREES

Training for Renovated Energy Efficient Social Housing

Objectives :

Development and dissemination of educational material on techniques, tools and case studies, to be integrated in courses for architects and social housing managers

- **To organise a collaboration between researchers - or professionals dealing with innovation – and teachers, in order to integrate new knowledge in training: architecture courses and continuing education of social housing managers.**
- **Text and overheads on a website accessible by teachers**
 - ▶ **Advanced technologies described by specialists**
 - ▶ **Tools, allowing to assess the energy performance and environmental quality of a renovation project**
 - ▶ **Case studies illustrating good practice**

Partners :

France (Armines/ ENSMP – CEP), Hungary, Budapest (University of Technology and Economics), Sweden (EnerMa), The Netherlands (DHV), Norway (SINTEF), Germany (University of Kassel, CESR) Duration : 24 months

New Integrated Renovation Strategy to improve Energy Performance of Social housing

Main objective: to develop an integrated strategy for renovating social housing in the EU, at local/regional level in order to increase its energy efficiency.

Specific objectives:

- To elaborate a series of situation maps for social housing in 4 regions/municipalities representative of the diversity of the EU.
- To study the cost/benefit of different technological solutions for both construction and equipment.
- To involve local/regional actors engaged with the retrofitting of social housing in 4 innovative local forums to discuss their specific needs, requirements and future activities.
- To support the development of a series of financing schemes, tailored to each region and situation.
- To elaborate a series of actions: awareness raising, education and training measures for energy savings and efficiency in social housing. **Duration: 24 months**

Involved municipalities/regions:

Spain (DV-NAVARRA, CRAN), Greece, Pefki (OEK, CRES) and Germany, North Rhine – Westphalia (OZ-NRW)



Social Housing Action to Reduce Energy consumption **SHARE**

Raising awareness and stimulating increased activity in sustainable energy retrofitting of social housing through:

- **multi-sectoral social housing energy forums**
- **training**
- **awareness and advice**

SHARE objectives:

- raising awareness of benefits of RES & RUE
- increasing level of RES & RUE in retrofit
- achieving behavioural change
- maximising financial & technical resources available
- promoting good practice
- enabling exchange of knowledge & experience

SHARE partners:

Severn Wye Energy Agency, UK
Tipperary Energy Agency, Ireland
Energikontor Sydost, Sweden
Sofia Energy Centre, Bulgaria
B&SU, Germany
BCEI ZRMK, Slovenia
EE74, France
Regional Energy Centres, Estonia

Improving the Social Dialogue for Energy Efficient Social Housing – ISEES

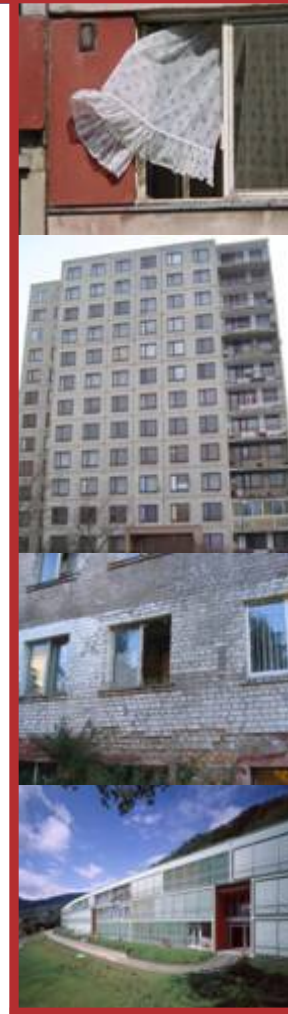
Project duration: Jan 2006 – Dec 2007

Objectives:

- assess the „human factor“ in regard to energy consumption in social housing across 5 countries in Europe
- investigate possibilities to optimise energy consumption in buildings through „social dialogue“
- assess the magnitude of the disconnection process in regard to DH systems in social housing and their reasons
- evaluate the socio-economic benefits of optimising energy consumption in social housing
- increase awareness of tenants/owners, municipal reps., housing associations and energy utilities and involve them in a broad communication process

Project co-ordinated by KWI Management Consultants GmbH (AT)

Co-beneficiaries: ACE Group, IFZ (AT), Cityplan (CZ), ESD (UK), ECB (SK), LEI (LT), SEC (BG)



Development & Marketing of Integrated Concepts for Energy Efficient and Sustainable Retrofitting of Social Housing

Objectives

- To raise awareness among decision makers and key actors – focusing on housing associations, local authorities and tenants – to initiate more retrofitting projects and to promote advanced high quality energy efficient solutions
- To promote advanced sustainable retrofitting solutions among target groups
- To promote advanced and innovative financing schemes for retrofitting social housing
- Increase the proportion of integrated energy efficiency solutions in renovation projects
- To realise 30-50% of energy savings in pilot projects



Countries involved:

Germany (target GmbH, Erneuerbare Energie, AKNDS, IFB), Austria (INTEC, GEA) Bulgaria (BSREC), Ireland (CODEMA), Italy (ATC NOVARA, ATC ASTI, Ambiente Italia, Feredercasa) and Poland (BAPE)

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E-RETROFIT-KIT (091)



Tool-Kit for "Passivhaus" Retrofit

The aim of the project is to develop a web-based tool-kit for passive house retrofitting applied to social housing comprising the elements of:

- General guidelines based on best practise
- Examples of passive house retro-fittings applied to social housing
- Catalogue of building components
- Methodology for making your own solutions.

This tool-kit will be disseminated to 15 countries with initial guidance to 60 social housing companies, more thorough guidance to 30 and sketch proposal to 6 social housing companies. The typical elements of passive house retrofitting are:

- ▶ Avoiding cold bridges through increased insulation of walls, roofs, house-foundation, windows and outer doors with low U-values
- ▶ Air-tightness
- ▶ Balanced ventilation with heat-recovery
- ▶ Cooling in southern climates, e.g. through ventilation and shading

Partners/ Countries involved:

FaellesBo, COWI A/S (Denmark);
Energieinstitut Vorarlberg (Austria); Energy
Research Centre of the Netherlands;
Asociación de Investigación Industrial de
Andalucía (Spain); Housing Agency BKA
(Lithuania)





RETROFITTING SOCIAL HOUSING AND ACTIVE PREPARATION FOR EPBD (2006 - 2008)



Project Summary ▼

About ►

[Objectives](#)

[Description of the work](#)

[Expected results](#)

[Partners](#)

[Targeted groups and key actors](#)

About RESHAPE Project

The project "Retrofitting Social Housing and Active Preparation for EPBD" (RESHAPE) is supported by the European Union under the Intelligent Energy-Europe programme.

RESHAPE intends to contribute to the implementation of the EU Directive on the Energy Performance of Buildings (EPBD).

The project covers six pilot countries: The Netherlands, Belgium, Spain, Estonia, Czech Republic and Bulgaria. Through dissemination activities the target area will be enlarged with Romania and Greece.

RESHAPE is a common action of ten partners united in a consortium which is co-ordinated by Ecofys (The Netherlands). It started in January 2006, with a duration of 30 months.











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FACTOR 4

Programme of actions towards Factor 4 in existing social housing in Europe

Objectives:

To develop a life cycling energy cost model (**Save Energy Cost or SEC model**) as a decision aid tool for social housing owners and provide technical and non technical recommendations in order to reduce energy consumption, increase RES and contribute to the reduction of greenhouse gas emissions by a factor 4 before 2050.

USH, HTC, La Calade, Moulins Habitat (France); Cenergia, KAB (Denmark); Ricerca&Progetto, Soc.Coop ABITA (Italy); Volkswohnung (Germany); Ass. of the Local Develop. Promotors (Romania)

Energy Performance Integration in Social Housing

Partners: The Netherlands (WonenBregburg, EBM Consult, TIWOS, TBV Wonen - city of TILBURG), Germany (IWU, Bauverein Darmstadt), France (CSTB, LOGIREP, SICF), Denmark (SBI), Italy (AGIRE, ATER)

■ Objectives:

- ▶ Create cost effective large scale energy assessments methods
- ▶ Embed EP-data in SHO-policy processes (such as portfolio management)
- ▶ Inventory of barriers for energy saving methods related to cost of living
- ▶ To find collaborative structures among local authorities, SHO's and private sector in order to stimulate energy savings, sustainable development and quality of housing

■ January 2006 to December 2008



■ Objectives:

- ▶ Development of methods for the definition and implementation of long-term energy-retrofitting strategies for SHO's
- ▶ Development of information systems supporting the methods



- Coordinator: DELPHIS (France)
- 14 partners: 6 social housing operators (SHO's), 3 associations or federations of SHO's, 5 scientific or consulting companies
- 6 countries: Italy, Germany, Czech Republic, Estonia, Austria, France

1 January 2006 – 31 December 2008 19

Innovative Financing of Social Housing Refurbishment in Enlarged Europe

Jan 2006 – Dec 2008

Facilitate the development of innovative financing schemes and putting them into action

- identify key factors for success and failure of financing schemes
- share experiences to accelerate the take-up of best practices
- facilitate the development of innovative financing schemes through helping to remove economic barriers to investments

Through analysis, design, extensive collaboration with market actors and dissemination, bringing newly developed schemes to market actors and public institutions, influencing energy efficiency on the demand side

Involved countries/partners:

Germany (CEBra), Bulgaria (SEC), Czech Republic (Enviros), Denmark (ECNet), Latvia (Ekodoma), The Netherlands (ECN), Poland (NAPE), Slovakia (ECB)

Intelligent Energy Europe



Energy Intelligent Education for Retrofitting of Social Houses

RETROFITTING OF SOCIAL HOUSING

Projects starting in 2007

SAVE@Work4Homes

Supporting European housing Tenants in Optimising Resource Consumption

ECOLISH

Energy Exploitation and Performance Contracting for Low Income and Social housing

SuRE-Fit

Sustainable Roof Extension Retrofit for High-Rise Social Housing in Europe

AVASH

Advanced Ventilation Approaches for Social Housing

EPEE

European Fuel Poverty and Energy Efficiency

TACKOBST

Tackling Obstacles in Social Housing

RETROFITTING OF SOCIAL HOUSING

Engaging with market actors: Target groups

TARGET GROUPS

- Residents
- Social housing managers
- Municipalities
- Utilities
- Architects
- Property administrators
- Government

RETROFITTING OF SOCIAL HOUSING

Engaging with market actors

The following selling points for improved energy performance of homes were identified for each of the target groups below:

Residents:

- better quality of life
- less lower fuel bills
- better thermal comfort and indoor climate
- Less risk of damp from condensation
- less risk to health from damp or temperatures too low or high
- increased value of property (owner-occupiers)

Social housing managers:

- improved company profile ('shining examples')
- moral necessity
- able to rent out higher proportion of properties due to improved quality
- less complaints from tenants
- less damage to decorations from condensation damp
- tenants more able to pay rent if fuel bills not so high

Municipalities:

- community value/reduction in social budget /reduction in fuel poverty
- high quality of housing gives good reputation with other municipalities

RETROFITTING OF SOCIAL HOUSING

Engaging with market actors (cont.)

Utilities:

- higher customer satisfaction
- demand side management increases overall value of service
- a way for utilities to achieve energy saving targets (set in some countries)

Architects:

- good business opportunity
- fashionable – good for reputation
- achievements in sustainable energy good for future career, as will become increasingly important

Property administrators:

- increased client satisfaction
- some property administrators receive % on technical works budget

Government:

- reduction in need for subsidies to support housing costs
- less risk of accident (such as fires) due to disconnection from fuel supply
- reduced costs to public health provision including:
 - reduced respiratory illness
 - reduced exacerbation of cardiovascular conditions
 - reduced 'bed-blocking' (convalescent people unable to return home due to unsuitable conditions at home)
 - less risk of accidents due to trips and falls (elderly people less steady if too cold or hot in the home)

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Thank you for your attention

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More Information on

http://ec.europa.eu/energy/intelligent/projects/socialh_en.htm